

This listing of claims will replace all prior versions of claims in the application.

Claim 1. (original) A method for administering nucleic acid to express a gene product in cells in tissue of interest, comprising:
treating the tissue to increase vascular permeability of exogenous nucleic acid; and
administering exogenous nucleic acid to the tissue.

Claim 2. (original) The method of claim 1 wherein the tissue is treated with a vascular permeability agent to increase vascular permeability.

Claims 3-4. (cancelled)

Claim 5. (original) A method for expressing a gene product in cells of tissue of interest, comprising:
treating the tissue with a vascular permeability agent under conditions of low calcium concentration to increase vascular permeability of exogenous nucleic acid; and
administering exogenous nucleic acid to the tissue.

Claims 6-26. (cancelled)

Claim 27. (original) A method for expressing a gene product in malignant cells in targeted tissue, comprising:
treating the tissue to increase vascular permeability of exogenous nucleic acid; and
administering exogenous nucleic acid to the tissue.

Claim 28. Th(original) e method of claim 27 wherein the tissue is treated with a vascular permeability agent to increase vascular permeability.

Claims 29-36. (cancelled)

Claim 37. (original) A method of providing, to a recipient subject, donor cells that comprise nucleic acid exogenous to the cells, comprising:
treating tissue comprising the donor cells to increase vascular permeability of exogenous nucleic acid;
administering nucleic acid to the tissue; and
introducing the donor cells into the recipient subject to express a gene product of the nucleic acid.

Claim 38. (original) The method of claim 37 wherein an organ comprising the donor cells is transplanted into the recipient subject.

Claim 39. (original) The method of claim 37 wherein the donor cells are swine cells or primate cells.

Claims 40-46. (cancelled)

Claim 47. (original) A pharmaceutical kit comprising:
a permeability agent that can increase vascular permeability of a subject; and
nucleic acid for administration to a subject.

Claim 48. (original) The kit of claim 47 further comprising a solution having a calcium ion concentration of from about 40 $\mu\text{mol/L}$ to about 500 $\mu\text{mol/L}$.

Claims 49-51. (cancelled)

Claim 52. (original) A treatment solution comprising:

- a) a permeability agent that can increase vascular permeability of nucleic acid; and
- b) nucleic acid.

Claim 53. (original) The treatment solution of claim 52 wherein the solution has a low calcium ion concentration.

Claim 54. (original) The treatment solution of claim 53 wherein the solution has a calcium ion concentration of from about 40 $\mu\text{mol/L}$ to about 500 $\mu\text{mol/L}$.

Claim 55. (original) A treatment solution comprising nucleic acid in a fluid carrier and having a low calcium ion concentration.

Claim 56. (original) The treatment solution of claim 55 wherein the solution has a calcium ion concentration of from about 40 $\mu\text{mol/L}$ to about 500 $\mu\text{mol/L}$.

Claims 57-60. (cancelled)

Claim 61. (new) A method for delivering nucleic acid to cells in tissue of interest, comprising administering to the cells exogenous nucleic acid under a calcium ion concentration of about 500 $\mu\text{mol/L}$ or less.

Claim 62. (new) The method of claim 61 wherein the nucleic acid is administered to the cells under calcium ion concentration of from about 40 $\mu\text{mol/L}$ to about 500 $\mu\text{mol/L}$.

Claim 63. (new) The method of claim 61 wherein the nucleic acid is administered by perfusion.

Claim 64. (new) The method of claim 61 wherein a perfusate of nucleic acid is recirculated and then readministered to the cells.

Claim 65. (new) The method of claim 61 wherein a fluid having a calcium ion concentration of from about 40 $\mu\text{mol/L}$ to about 500 $\mu\text{mol/L}$.

Claim 66. (new) The method of claim 61 wherein the nucleic acid is administered to a solid cell mass.

Claim 67. (new) The method of claim 61 wherein the nucleic acid is administered to a solid organ.

Claim 68. (new) The method of claim 61 wherein the nucleic acid is administered to cells of heart, lung, kidney, testes, ovaries, skeletal muscle, kidneys, brain or spleen.

Claim 69. (new) The method of claim 61 wherein the tissue is cardiac tissue.

Claim 70. (new) The method of claim 61 wherein the tissue comprises malignant cells.

Claim 71. (new) The method of claim 61 wherein the nucleic acid is administered to a solid tumor.

Claim 72. (new) The method of claim 61 wherein the tissue is mammalian.

Claim 73. (new) The method of claim 61 wherein the nucleic acid is administered ex vivo.

Claim 74. (new) The method of claim 61 wherein the nucleic acid is administered in vivo.

Claim 75. (new) The method of claim 61 wherein the nucleic acid is administered to livestock, poultry, dog or cat.